

REMARKS

The foregoing amendment is submitted to more clearly set forth the claimed subject matter and to address the technical objections to the claims set forth in paragraph 3 of the Office Action.

Claim 23 is now directed to a crunch providing ingredient suitable for incorporation internally into chewing gum. The crunch providing ingredient is a granulated additive consisting essentially of isomalt. The additive is prepared by heating, cooling and then granulating the isomalt product to a particular particle size (i.e. greater than 50 mesh). Claims 24-31 have been amended to conform the claims to the amendments made in claim 23.

Claim 32 is directed to a process for preparing the crunch providing ingredient consisting essentially of isomalt. The steps of the process have been amended such that step b) has been modified to provide reference to the product obtained in step a). Claims 39 and 40 have been amended to conform to the process of claim 32. It is respectfully submitted that no new matter has been added and entry of the amendment to the claims is deemed proper and is respectfully requested.

The present invention is directed to a crunch providing ingredient which has a number of important features. First, the crunch providing ingredient is in the form of a granulated additive. Secondly, the granulated additive consists essentially of

isomalt. The third feature is that the isomalt is prepared by a process which forms a solid isomalt product which is then granulated to a particle size greater than 50 mesh. As indicated at page 4, beginning at line 25 the isomalt product of the present invention may be prepared from commercially available isomalt such as PALATINIT.

Claims 23-31 of the application have been rejected as obvious over Cherukuri et al. (U.S. Patent No. 4,961,935) and specifically with regard to the disclosure at column 13. Cherukuri et al. discloses the addition of a sugarless bulking agent to a chewing gum composition. The bulking agent is substantially anhydrous and non-hygroscopic (column 6, lines 30-32). The preferred sugarless bulking agent is the commercially available bulking agent manufactured under the tradename PALANTINIT by Suddeutsche Zucker.

The bulking agent used in Cherukuri et al. is exactly the same material that is treated in accordance with the present invention (see page 4, beginning at line 25). Thus, Cherukuri et al. adds PALANTINIT to the chewing gum without further processing. Applicants acknowledge that column 13 of Cherukuri et al. shows that chewing gum compositions containing PALANTINIT as the bulking agent compares favorably in the "crispness" or "crunch" test with chewing gum compositions which contained sorbitol and mannitol as the bulking agent. This is because PALANTINIT when used as a bulking agent absorbs less moisture than chewing gum compositions which contain sorbitol and mannitol as the bulking agent (column 12, lines 33-36).

It is important to note that sorbitol and mannitol are referred to in the present application. Page 16 of the present application shows the preparation of isomalt granulates followed by the attempted preparation of polyol granulates including samples of sorbitol and mannitol. However, as indicated at the top of page 17 granulates could not be prepared from sorbitol and mannitol (see also page 18, lines 9-11).

Thus, Cherukuri et al. and the present application agree that sorbitol and mannitol are ineffective as bulking agents and agents which are particularly useful to provide long lasting crunch to a chewing gum composition.

Commercially available PALANTINIT as used in Cherukuri et al. is available as a powder not as a granulate. It is clear that Cherukuri et al. provides no teaching or suggestion of treating the commercially available PALANTINIT in anyway to provide a crunch providing ingredient. The Cherukuri et al. bulking agent is not a granulated additive and certainly has not been granulated to provide a particle size of no greater than 50 mesh. Irrespective of whether PALANTINIT alone as used in Cherukuri et al. can provide crunch, it is clear that the product claimed in the present invention (i.e. the crunch providing ingredient) is a different product than that taught or suggested by Cherukuri et al. Applicants provide a process of treating the commercially available PALANTINIT in a manner which produces a crystalline product that is granulated to a particular particle size.

It should be recognized that while a powder may provide better crunch than products which do not provide a crunch (e.g. sorbitol and mannitol), powders may be soft and any crunch provided may not be pronounced or long lasting. The purpose of the present invention is to provide a crunch providing ingredient having a desirable crunch with texture and mouthfeel similar to that provided by granulated sugar. The crunch providing ingredient also provides a long lasting crunch and commercially acceptable storage time as compared to other ingredients (page 3, lines 19-30).

With this in mind, Applicants discovered that commercially available isomalt (PALANTINIT) must be treated in a manner to produce a granulated additive with particular particle size requirements in order to accomplish the objects of the invention. As previously indicated, Cherukuri et al. provides no guidance or teaching to one of ordinary skill in the art as to how to achieve this superior crunch providing ingredient. Accordingly, the present invention as encompassed by claims 23-31 is not obvious from Cherukuri et al.

Claims 32-40 stand rejected as obvious over Cherukuri et al. as applied to claims 23-31 and further in view of Tanaka et al. (U.S. Patent No. 5,709,895) and particularly column 3, lines 35-43 and column 4, lines 47-49. The rejection is hereby traversed and reconsideration is respectfully requested.

The portions of the reference referred to in the Office Action make it clear that the reference employs a method wherein a carbohydrate mixture containing modified

starches and hydrogenated saccharides are heated to a molten condition followed by the addition of flavor and mixing to form a uniform mixture. The uniform mixture is then solidified by rapid cooling under extrusion.

Claim 32 requires that the crunch providing ingredient consists essentially of isomalt. The definition of "consisting essentially of" is well known. In the context of the present application, the language "consisting essentially of" means that the crunch providing additive consists substantially of isomalt, optionally containing flavoring agents, coloring agents, and less preferably containing at most minor quantities of other polyols. The term "most minor" means less than 20 weight percent based on the weight of the crunch additive, preferably no more than 10%, and most preferably the sole polyol is isomalt (see page 4, lines 13-23).

To the contrary, Tanaka et al. is directed to a process of producing flavor-containing sugar-free capsules (not chewing gums). The flavor is encapsulated in a carbohydrate mixture containing modified starches with hydrogenated saccharides. While the hydrogenated saccharide can be isomalt as disclosed at column 4, line 49, the hydrogenated saccharide may also be selected from one or more other hydrogenated saccharides including xylitol, lactitol, maltitol and hydrogenated corn syrup. In this regard, it is important to note that the present application at page 19, beginning at line 8 establishes that maltitol cannot be processed in accordance with the present invention and at page 19, beginning at line 15, xylitol is inferior to the isomalt granulate of the present invention. Thus, with respect to hydrogenated

saccharides, Tanaka et al. lists a wide range of these substances some of which cannot function in accordance with the present invention.

In addition, Tanaka et al. requires the presence of modified starch (see column 3, line 66 to column 4, line 6). Modified starch is an essential component of the Tanaka et al. invention and may be present in amounts relative to the hydrogenated saccharide of up to 85% (column 3, lines 44-49). To the contrary, the present invention does not include modified starch and the language "consisting essentially of" as discussed above makes it clear that a substance such as modified starch is not part of the crunch providing additive of the present invention.

Thus, Tanaka et al. provides a process for producing flavor-containing sugar-free capsules in which the flavor is encapsulated by a mixture containing modified starches and hydrogenated saccharides. A molten mixture is formed which is then solidified by rapid cooling under extrusion. The solid product is cut or subjected to grinding to form capsules.

Tanaka et al. therefore does not provide a crunch provided ingredient for a chewing gum. It employs a mixture of materials which are not part of the present invention. Not only is modified starch excluded from the present invention, but the hydrogenated saccharides specifically taught by Tanaka et al. include materials which clearly do not work in accordance with the present invention. With this teaching in mind, it would be impossible for one of ordinary skill in the art to take the information from Tanaka et al. and somehow modify Cherukuri et al. to arrive at the

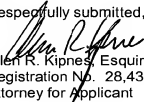
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claimed invention. Cherukuri et al. uses commercially available isomalt. If Cherukuri et al. could be combined with Tanaka et al. Tanaka et al. would require the addition of modified starch and the production of a mixture of materials which is clearly outside of the present invention.

It is therefore respectfully submitted that the references of record, alone or in combination do not teach or suggest the presently claimed invention. Early passage to issue of the present application is therefore deemed proper and is respectfully requested.

It is believed that no fee is due in connection with this matter. However, if any fee is due, it should be charged to Deposit Account No. 23-0510.

Respectfully submitted,

  
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